

REMARKS

By this Amendment, the specification and claims 1, 3, 5 and 7-8 are amended, claims 9 and 10 are newly added, and claims 2 and 6 are canceled without prejudice or disclaimer to the subject matter therein. Claims 1 and 5 are amended to positively recite the limitations of claims 2 and 6, respectively. The specification is amended to correct a minor clerical mistake. Support for newly added claims 9 and 10 may be found, for example, in FIGS. 2-9 and their corresponding descriptions. No new matter is added. After entry of this Amendment, claims 1, 3-5, and 7-10 are pending in the patent application. Reconsideration and allowance of the present application based on the foregoing amendments and following remarks are respectfully requested.

Applicant submitted an Information Disclosure Statement on January 14, 2005 forwarding a European Search Report and six references. Applicant respectfully requests consideration of these references and return of the initialed PTO-1440 with the next Official Action.

Claims 1-3, 5, and 7-8 were objected to because of various informalities noted in the Office Action. Claim 2 is canceled without prejudice or disclaimer, thus rendering moot the objection to claim 2. Claims 1, 3, 5 and 7-8 are amended in the manner suggested by the Examiner. Accordingly, reconsideration and withdrawal of the objection to claims 1, 3, 5, and 7-8 are respectfully requested.

In the Office Action, claims 1-8 were rejected under 35 U.S.C. §112, second paragraph. The rejection is respectfully traversed.

Claims 2 and 6 are canceled without prejudice or disclaimer, thus rendering moot the rejection of claims 2 and 6. In connection with the rejection of claims 1 and 8, the Office Action alleges that it is unclear as to what is controlled by the controller in order to make the gaps equal on the first and second conveying paths. Applicant respectfully disagrees. Applicant notes that the conveyance of the sheets is controlled by adjusting/controlling the reversing roller 11 and the pinch roller 12. This is clearly explained, for example, in paragraphs [0045]-[0065] of the specification and in FIGS. 2-9. Applicant notes that by adjusting/controlling the reversing roller 11 and the pinch roller 12, the gaps between two sheets may be the same on the first and second paths 4 and 7.

The Office Action also alleges, with respect to claims 1 and 5, that it is unclear as to where the specified gap is located. Applicant respectfully disagrees and notes that the specified gap is the gap located between a rear edge of one conveyed sheet and the front edge

of the next conveyed sheet, as explained in FIG. 11 and in paragraph [0084] of the specification. As recited by claim 1, the sheets are conveyed in the first direction with a specified gap.

Claims 1 and 5 were rejected for various informalities noted in the Office Action. In response, claims 1 and 5 are amended to provide antecedent basis for the limitations noted in the Office Action.

With respect to claim 8, the Office Action alleges that it is unclear as to “what becomes in accord with each other.” In response, claim 8 is amended to remove this limitation.

Applicant respectfully submits that the above-identified amendments and the preceding remarks fully obviate the grounds for the rejection. Accordingly, reconsideration and withdrawal of the rejection of claims 1, 3-5, and 7-8 under 35 U.S.C. §112, second paragraph, are respectfully requested.

Claims 1-8 were rejected under 35 U.S.C. 103(a) based on Repp *et al.* (U.S. Pat. No. 4,487,506) (hereinafter “Repp”) in view of Stoll (U.S. Pat. No. 6,550,762). This rejection is respectfully traversed.

Claims 2 and 6 have been canceled without prejudice or disclaimer, thus rendering moot the rejection of claims 2 and 6.

Amended claim 1 recites a sheet reversing controller comprising, *inter alia*, a controller to control the conveyance of the sheets so that the conveying gap between the sheets conveyed on the second conveying path becomes equal to the specified gap when conveyed on the first conveying path regardless of the lengths of the plural sheets. As conceded by the Examiner, on page 4, lines 13-16 of the Office Action, Repp fails to disclose, teach or suggest this feature. However, Applicant respectfully submits that there are additional features that are absent in Repp. For example, Repp fails to disclose, teach or suggest a sheet reversing controller wherein, *inter alia*, the controller sets a protruding amount of the sheets protruding between the reversing portion and the second conveying path when the sheets are stopped for reversing the conveying direction of the sheets to a fixed length regardless of the lengths of the sheets.

Repp merely discloses a dual mode inverter that includes tri-rolls 501, 502, and 503 that serve as input and output means and reversible drive rolls 504 and 505 along with trail edge sensor 51. (See col. 6, lines 62-65 and FIG. 4). The Office Action nonetheless alleges that Repp discloses in FIG. 4 a controller that sets a protruding amount of the sheets as recited in claim 1. Applicant respectfully disagrees. Repp merely teaches that if the sheet is

to be transported to output means 151 and 152, the reversible rolls 504 and 505 receive the sheet from the input nip and forward it toward the output area, and if the duplex tray 400 is to be utilized, the trail edge of the sheet is sensed by sensor S1. (See col. 6, lines 67-68 and col. 7, lines 1-4). In Repp, a signal is sent from sensor S1 to controller 101 which in turn sends a signal to a reversible drive control means that reverses the rotation of rolls 504 and 505. (See col. 7, lines 4-7). Therefore, in Repp, the controller 101 merely receives a signal and reverses the rotation of the rolls. It does not set a protruding amount of the sheets, as recited in claim 1. Repp is completely silent about a controller that sets a protruding amount of the sheets protruding between the reversing portion and the second conveying path when the sheets are stopped for reversing the conveying direction of the sheets to a fixed length regardless of the lengths of the sheets. Accordingly, the controller 101 of Repp fails to disclose the features of the claimed controller.

Stoll fails to remedy the deficiency of Repp. Stoll merely discloses a high speed printer with dual alternate sheet inverters. (See col. 1, lines 13-16). Stoll is completely silent about setting a protruding amount of the sheets, as recited in claim 1. Therefore, the combination of Repp and Stoll cannot result, in any way, in the invention of claim 1.

It is also noted that in the present invention, and contrary to Stoll, a single inverter is used to reverse the sheets from the first conveying path to the second conveying path so that the conveying gap between the sheets conveyed on the second conveying path becomes equal to the conveying gap when conveyed on the first conveying path regardless of lengths of plural sheets.

Furthermore, Applicant respectfully submits that it is improper to combine references that teach away from each other. Repp discloses a printing machine that is configured to invert paper sheets with a single inverter. By contrast, Stoll discloses a dual inverter that is configured to avoid problems encountered with a single inverter. For example, Stoll states: "The system disclosed herein avoids the typical conventional approach of using a much higher paper path (sheet feeding) velocity in a single inverter (which can be as much as twice the normal paper path or process speed of the printer) yet can maintain collation, maintain a proper inter-sheet gap in the sheet path and insure that successively printed sheets do not impact or interfere with one another, even with high speed printing with rapidly successive sheets moving in the paper paths." (See col. 1, lines 19-27, emphasis added). Stoll also states: "Directly sequential sheets need not be inverted in the same inverter. Thus, a much lower speed inverter operation can be employed, providing numerous advantages." Therefore, by virtue of teaching that a dual inverter has superior advantages over a single

inverter, Stoll teaches away from the type of single inverter disclosed by Repp. Therefore, Applicant respectfully submits that the combination of Repp and Stoll is improper and that the Examiner has failed to establish a *prima facie* case of obviousness that would render claim 1 obvious. For at least this reason, claim 1 is patentable over Repp and Stoll.

Claims 3 and 4 are patentable over Repp, Stoll, and a combination thereof by virtue of their dependency from claim 1 and for the additional features recited therein.

Claim 5 recites a sheet reversing control method wherein, *inter alia*, the control step controls an amount of the sheet protruding between the reversing portion and the second conveying path when stopping the sheets for reversing its conveying direction to a fixed length. As mentioned previously in the discussion related to claim 1, Repp and Stoll, taken alone or in combination, fail to disclose, teach or suggest this feature. Furthermore, as noted above, Repp and Stoll teach away from each other. Therefore, it is respectfully submitted that claim 5 is patentable. Claims 7 and 8 depend from claim 5 and are, therefore, patentable for at least the same reasons provided above related to claim 5 and for the additional features recited therein.

Applicant respectfully submits that claims 1, 3-5, 7 and 8 are allowable over Repp and Stoll. Accordingly, reconsideration and withdrawal of the rejection of claims 1, 3-5, 7 and 8 under 35 U.S.C. 103(a) based on Repp in view of Stoll are respectfully requested.

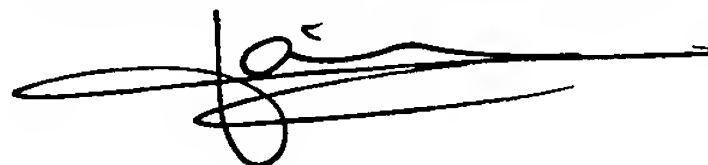
Claims 9 and 10 are newly added. Claims 9 and 10 are directed to additional features of the invention that are novel and non-obvious over the cited references. Furthermore, claims 9 and 10 are patentable over Repp and Stoll at least by virtue of their dependency from claims 1 and 5, respectively. Therefore, Applicant respectfully submits that claims 9 and 10 are in condition for allowance.

Applicant has addressed the Examiner's rejection and respectfully submits that the application is in condition for allowance. A notice to that effect is earnestly solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

ASARI -- 10/647,467
Client/Matter: 009270-0305494

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Respectfully submitted,
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